

Mapping the Nexus of Transformational Leadership, Pedagogical Competence, and Learning Management Innovation: A Scoping Review and Its Implications for Islamic Religious Education

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ABSTRACT

Purpose – This study explores the intersection of transformational leadership, pedagogical competence, and learning management innovation in teacher education. While these constructs have been studied individually, their integration remains underexplored, particularly in the context of Islamic Religious Education (IRE). The purpose of this scoping review is to map existing literature, identify key themes, and highlight implications for developing teacher agency and future-ready pedagogical models in IRE.

Design/methods/approach – The review employed Arksey and O'Malley's scoping review framework, refined by Levac, and aligned with PRISMA-ScR guidelines. A systematic search of the Scopus database (2016–2025) was conducted using Boolean combinations of keywords related to leadership, pedagogy, and innovation in teacher education. Studies that met inclusion criteria were analyzed thematically following Braun and Clarke's six-phase approach.

Findings – From 827 identified records, 33 studies were included, revealing three major themes: (1) transformational leadership works best in collaborative, distributed settings that strengthen teacher agency; (2) pedagogical competence grows through TPACK use, reflective practice, and cultural responsiveness; and (3) learning management innovation is effective when institutionally supported, though often limited by resistance and resource constraints. Overall, teacher agency consistently appears across the reviewed literature as a cross-cutting theme linked to adaptability and innovation, suggesting its relevance for strengthening leadership, pedagogy, and institutional improvement within IRE.

Research implications/limitations – This research shows that strengthening teacher agency can guide theoretical development in IRE and inform practical improvements in leadership and pedagogy, though its reliance on a single database and its descriptive scoping design limit the breadth and depth of its conclusions.

Originality/value – This paper offers an integrated lens on leadership, pedagogy, and innovation while proposing their contextual relevance for IRE. Embedding teacher agency in IRE can foster reflective, inclusive, and technologically responsive religious educators. The study contributes a foundation for future empirical research on leadership-driven pedagogical innovation in Islamic education.

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Introduction

Education systems across the world are facing rapid shifts driven by digital transformation, rising expectations for instructional quality, and the need for school leaders who can guide teachers through continuous change (McCarthy et al., 2022). These pressures are also strongly felt in Southeast Asia, where institutions must balance modernization with local cultural and religious values. Within this landscape, Islamic Religious Education (IRE) faces an even more complex challenge: it must preserve its spiritual mission while strengthening pedagogical competence and adopting innovative learning management practices that meet contemporary student needs (Demirel Ucan & Wright, 2019; Putkonen et al., 2025). These conditions make the study of transformational leadership, teacher competence, and educational innovation highly relevant for IRE, especially as many IRE institutions seek more adaptive and future-ready approaches to teaching and learning.

This urgency aligns with broader 21st-century demands for innovative teacher education that prioritizes adaptability, transformational leadership, and stronger pedagogical capacity. Teacher preparation programs are increasingly required to integrate digital technologies, culturally responsive teaching, and socio-emotional learning to address diverse and evolving classroom challenges (Kole, 2023). These priorities highlight the need for learning management innovation, including the use of collaborative platforms and differentiated instructional strategies, although issues such as resistance to change and limited resources remain significant (Mohan & Gupta, 2024). Simultaneously, a shift toward a professional continuum views teacher development as a lifelong journey, requiring pedagogical competence rooted in new pedagogies, institutional partnerships, and the empowerment of all educators as potential leaders (McMahon et al., 2015). For example, fostering transformational leadership among preservice teachers through innovative assessment practices is crucial, moving beyond exam-driven models toward reflective and future-ready teaching (Hwami, 2024).

Building on these 21st-century imperatives, the increasing complexity of teaching roles calls for more than content mastery. Today's teachers must navigate dynamic, unpredictable classroom environments while balancing competing priorities and addressing diverse student needs (Abraham et al., 2025; OECD, 2020; Silva, 2001). From a complexivist perspective, traditional linear models of teaching are insufficient; instead, teaching should be understood as an evolving interaction among teachers, learners, content, and context (Ricca, 2012). While subject knowledge remains important, effective teaching also requires making learning relevant, inspiring, and student-centered (Khwaja, 2006; Stern, 2023). Consequently, teacher education programs must transform integrating new pedagogical thinking, embedding critical reflection, and addressing diversity through technology-enhanced and inclusive practices. Ensuring future educators are prepared for these demands necessitates continuous evaluation of how well these programs foster pedagogical competence and innovation.

In response to these evolving demands on teacher education, growing attention has been directed toward the interplay between transformational leadership, pedagogical

competence, and learning management innovation. Research indicates that transformational leadership plays a pivotal role in shaping teaching practices and driving educational innovation, often through mechanisms such as knowledge management and knowledge sharing (Al-Husseini et al., 2021; Supermane, 2019). For instance, in higher education contexts, knowledge sharing has been shown to mediate the relationship between leadership and innovation, underscoring the importance of collaborative learning cultures. Likewise, absorptive capacity the ability to recognize, assimilate, and apply new knowledge-- has been identified as a key factor through which transformational leadership fosters both exploratory and transformative learning (Darwish et al., 2020). These dynamics are further illustrated in pedagogical contexts where innovative strategies, such as integrating mindfulness into curricula, are employed to deepen learners' cognitive engagement with complex subjects like leadership and ethics (Kuechler & Stedham, 2018). Taken together, these studies reveal the multidimensional connections between leadership, knowledge processes, and innovation, offering valuable insights into how teacher education can be reimagined for future-ready teaching.

In addition, as schools face increasing pressure to respond to diverse learner needs, adapt to technological advances, and implement sustainable reforms, the role of the teacher has expanded far beyond instructional delivery (Parsons et al., 2018; Pennings et al., 2018). Teachers who demonstrate adaptability and embrace leadership responsibilities are uniquely positioned to drive school improvement and directly enhance student outcomes (Asima et al., 2021; Collie et al., 2020). Adaptable educators not only tailor their instruction to students' social, cultural, and academic backgrounds, but also effectively navigate uncertainty, manage change, and build strong relational dynamics in the classroom traits that are central to effective teaching and improved learning outcomes. Similarly, teacher leadership has emerged as a catalyst for educational transformation, empowering teachers to participate in decision-making, spearhead curricular innovations, and foster a collaborative professional culture. This kind of leadership has been linked to improved student achievement, strengthened peer mentoring, and the cultivation of collective efficacy-- a shared belief among educators in their collective power to make a difference (Harris & Jones, 2019; Schott et al., 2020; Wenner & Campbell, 2017). However, despite these well-established strands, recent reviews show that the combined interaction between transformational leadership, pedagogical competence, and learning management innovation remains largely unmapped, particularly within IRE, where these constructs continue to be studied separately rather than as an integrated framework.

Despite the demonstrated benefits of both adaptability and leadership in education, their intersection with pedagogical competence and learning innovation remains underexplored in teacher education literature. This need is even more urgent in IRE, where rapid curricular reforms, digital integration, and rising expectations for culturally responsive instruction demand teachers who can lead, innovate, and apply strong pedagogical judgement. Mapping this intersection is essential for reimagining teacher development models that are holistic, future-ready, and capable of responding to the evolving demands of 21st century classrooms (Godfrey, 2020; Kourgiantakis et al., 2020).

Without a systematic and thematic synthesis, educators and policymakers risk overlooking critical connections that could inform more coherent and effective teacher preparation and professional development programs. Therefore, mapping the literature through a scoping review and thematic analysis is essential to illuminate these intersections, identify gaps, and propose directions for future research and practice. To address this gap, a scoping review combined with thematic analysis was undertaken to systematically examine the existing literature and identify conceptual patterns, implementation models, and emerging challenges. Specifically, this study is guided by the following four research questions:

- (1) What does the literature reveal about transformational leadership practices among educators in teacher education contexts (preservice and in-service)?
- (2) How is pedagogical competence defined, developed, and assessed in teacher education literature?
- (3) What forms of learning management innovation are identified in teacher education, and how are they implemented?
- (4) What key themes emerge in the literature regarding the integration of leadership, pedagogy, and innovation in preservice and in-service teacher development and what implications does this have for Islamic Religious Education?

Methods

Research Design

This study employed a scoping review combined with thematic analysis to systematically explore the intersection of transformational leadership, pedagogical competence, and learning management innovation in teacher education. For this initial mapping, Scopus was selected as the sole database due to its broad international coverage, rigorous indexing standards, and strong representation of peer-reviewed scholarship in education, leadership, and innovation (Aboagye & Ayikue, 2025; Hallinger & Kovačević, 2021). While there is no universally agreed-upon definition or purpose of scoping reviews, most interpretations describe them as a research approach aimed at synthesizing evidence to capture and convey the overall breadth and depth of a given field (Levac et al., 2010).

Unlike systematic reviews, scoping reviews do not typically involve a rigorous appraisal of study quality, as their primary aim is to map the scope of existing literature rather than evaluate the strength of evidence. Moreover, scoping reviews tend to adopt broader research questions and more flexible inclusion/exclusion criteria. They may not require detailed data extraction and often emphasize qualitative synthesis over quantitative analysis in their discussion of findings (Cacchione, 2016). The review was guided by Arksey & O'Malley (2005) five-stage framework, refined by Levac (2010), and aligned with PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews) guidelines to ensure transparency and rigor (Tricco et al., 2018).

Article Selection

A comprehensive literature search was conducted using one primary academic database: Scopus. This database was selected to ensure both breadth and depth in capturing relevant literature across the fields of transformational leadership, pedagogical competence, and learning management innovation. Scopus was chosen for its extensive multidisciplinary coverage and its inclusion of high-quality, peer-reviewed publications from international sources, providing access to a wide range of empirical studies and theoretical contributions. Table 1 outlines the main research topics and the associated Boolean keyword combinations used in the literature search for this scoping review. The keywords were derived from the core concepts of the study transformational leadership, pedagogical competence, and learning management innovation within the broader context of teacher education.

To ensure a comprehensive mapping of the literature, the search strategy did not include Islamic Religious Education–specific keywords. This decision was based on the scoping review objective of capturing a broad range of studies addressing transformational leadership, pedagogical competence, and learning management innovation in teacher education contexts. Given the limited number of studies explicitly categorized under Islamic Religious Education, an IRE-specific keyword restriction would have excluded relevant conceptual and empirical work. Instead, relevance to IRE was established during the synthesis and interpretation stages, where findings from general education were systematically analyzed and translated in relation to Islamic educational values, institutional contexts, and teacher roles.

Boolean operators such as OR were used to capture variations and synonyms within each topic, ensuring a comprehensive and inclusive search. The operator AND was later applied to combine different conceptual clusters, allowing the retrieval of studies that address the intersection of multiple themes. These keyword strings were used consistently to ensure the reliability and replicability of the search strategy.

Table 1. Keywords

| Research Topics | Keywords (Booelan Operators) |
|-----------------------------|---|
| Transformational Leadership | ("Transformational Leadership" OR "Instructional Leadership" OR "Educational Leadership" OR "Leadership Style" OR "Leadership Practice" OR "Academic Leadership" OR "Teacher Leadership") AND ("Teacher Education" OR "Preservice Teacher Education" OR "Initial Teacher Training" OR "Teacher Preparation" OR "Pre-service Teacher Training" OR "In-service Teacher Training" OR "Continuing Professional Development" OR "Teacher Professional Development" OR "Ongoing Teacher Training"). |

| | |
|--------------------------------|--|
| Pedagogical Competence | <p>("Pedagogical Competence" OR "Teaching Skills" OR "Instructional Competence" OR "Teaching Proficiency" OR "Pedagogical Knowledge" OR "Instructional Practice" OR "Teaching Expertise" OR "Professional Competence") AND ("Teacher Education" OR "Preservice Teacher Education" OR "Initial Teacher Training" OR "Teacher Preparation" OR "Pre-service Teacher Training" OR "In-service Teacher Training" OR "Continuing Professional Development" OR "Teacher Professional Development" OR "Ongoing Teacher Training").</p> |
| Learning Management Innovation | <p>("Learning Management Innovation" OR "Instructional Innovation" OR "Teaching Innovation" OR "Curriculum Innovation" OR "Educational Innovation" OR "Digital Learning Innovation" OR "Technology-Enhanced Learning") AND ("Teacher Education" OR "Preservice Teacher Education" OR "Initial Teacher Training" OR "Teacher Preparation" OR "Pre-service Teacher Training" OR "In-service Teacher Training" OR "Continuing Professional Development" OR "Teacher Professional Development" OR "Ongoing Teacher Training").</p> |

The data were extracted from Scopus on 12 June 2025, using a 10-year time frame (2016–2025) to capture contemporary developments and trends in transformational leadership, pedagogical competence, and learning management innovation within teacher education. The literature search was conducted manually using the Scopus database. This approach was selected to allow precise control over search strings, filters, and inclusion criteria, as well as to ensure consistency with the journal’s indexing standards. Manual searching also enabled careful screening of titles, abstracts, and full texts in line with the objectives of this scoping review. After the initial search, duplicate entries within Scopus results were removed to ensure accuracy.

The remaining records were screened using a set of predefined inclusion and exclusion criteria. Studies were included if they were published in English, appeared in peer-reviewed journals, full-text available, and addressed at least one of the core areas: transformational leadership, pedagogical competence, or learning management innovation in preservice or in-service teacher education contexts. Articles were excluded if they were conceptual or opinion-based pieces, article in-press, conference papers, lacked relevance to teacher education, or did not engage substantively with any of the target themes. The screening process involved two stages: title screening to eliminate unrelated

topics, followed by abstract screening to ensure alignment with the research questions. Studies that met all criteria were then selected for full-text review and thematic analysis. Figure 1 shows overall research design and selection process.

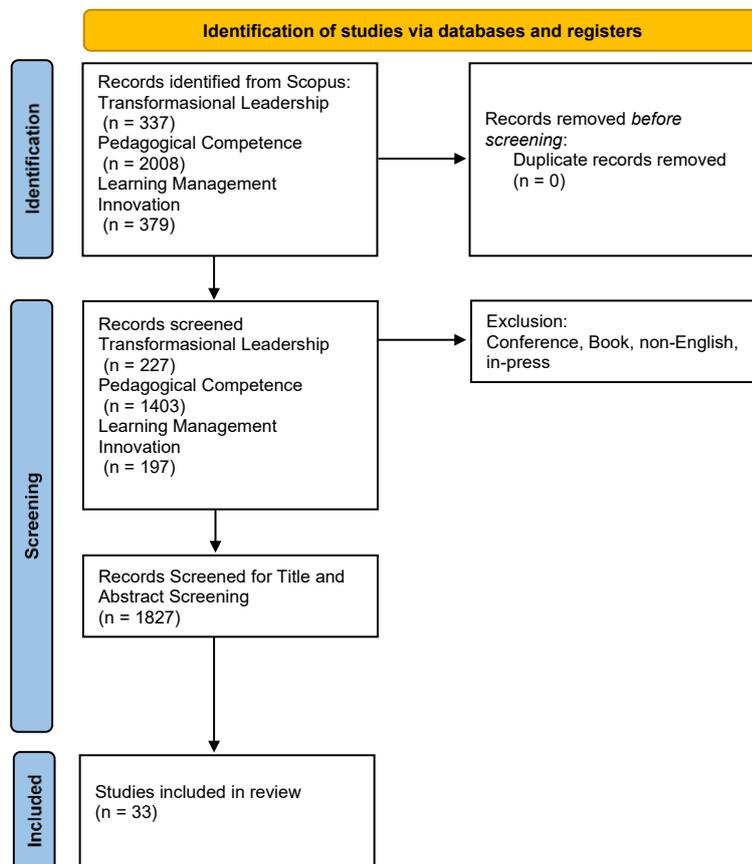


Figure 1. Research Design and Selection Process

Analysis and Synthesis of the Results

Data from the selected studies were charted using a structured extraction table that included details such as authorship, publication year, geographical context, research design, and relevance to each of the three thematic domains. The extracted data were analyzed and selected thematically following Braun and Clarke’s (2006) six-phase method (Braun & and Clarke, 2006). Both deductive codes, based on the research questions, and inductive codes, derived from emergent patterns, were used. To enhance trustworthiness, multiple researcher assistants reviewed the codes and themes, and an audit trail was maintained throughout the analysis process.

This methodological approach enabled a comprehensive synthesis of fragmented studies and helped illuminate key themes that connect leadership, pedagogy, and innovation in teacher education. Importantly, in considering the implications for Islamic Religious Education (IRE), the thematic synthesis was extended to highlight how these constructs transformational leadership, pedagogical competence, and learning management innovation can inform the preparation and professional development of religious educators.

Result and Discussion

Following the screening and eligibility assessment process, 33 studies were retained for inclusion in this scoping review. These studies were analyzed thematically to identify key patterns related to transformational leadership, pedagogical competence, and learning management innovation in teacher education contexts. The findings and discussion presented below synthesize these themes and interpret their relevance for IRE.

1. Transformational Leadership Practices Among Educators in Teacher Education

Transformational leadership within teacher education is increasingly understood not as a positional role, but as a distributed and relational practice that shapes instructional quality, professional growth, and school improvement. Across the literature, leadership emerges as most effective when it empowers teachers to exercise agency, collaborate meaningfully, and align pedagogical innovation with shared educational values.

A consistent pattern across studies is the shift away from hierarchical, top-down leadership models toward teacher-centred and collaborative leadership structures. Research demonstrates that when leadership responsibilities are distributed, teachers are more likely to engage in reflective practice, instructional improvement, and innovation (Adams et al., 2022; Salas-Rodríguez & Lara, 2023). Collective teacher efficacy, in particular, has been shown to mediate the relationship between professional development and student achievement, reinforcing the idea that leadership functions through shared responsibility rather than individual authority (Salas-Rodríguez & Lara, 2023).

The role of formal school leadership remains important, but primarily as a facilitator of teacher collaboration and professional learning. Studies examining principal leadership highlight how supportive leadership cultures foster collaborative learning environments in which teachers feel encouraged to experiment, reflect, and lead (Fonsén et al., 2023; Krasniqi, 2021). Instructional leadership that prioritizes trust, autonomy, and professional dialogue has been linked to both enhanced teaching quality and improved student outcomes (He et al., 2024; Li et al., 2023). These findings suggest that transformational leadership operates most effectively when principals create enabling conditions rather than exercising direct control.

Leadership practices are also increasingly connected to innovation and adaptability within teacher education. Teachers who are supported to engage with new pedagogical models, such as entrepreneurial or design-oriented approaches, demonstrate greater readiness to respond to contemporary educational demands (Lasekan et al., 2021). Such approaches position teachers not only as implementers of curriculum but as active contributors to its evolution, strengthening their leadership capacity within training programmes and school contexts.

Social justice and equity constitute another important dimension of transformational leadership. Leadership that foregrounds inclusive practices and critical pedagogy contributes to more equitable learning environments by challenging dominant norms and amplifying diverse perspectives (Aronson et al., 2020). In this sense,

transformational leadership extends beyond instructional effectiveness to encompass moral and ethical commitments that shape school culture.

Teacher agency plays a central role in how leadership is developed and enacted. Evidence from practicum-based research indicates that student teachers begin to develop leadership capabilities when they are embedded in collaborative, supportive school environments that value mentorship and shared inquiry (Chaaban & Sawalhi, 2020). This agency becomes particularly salient during periods of disruption, such as the shift to remote learning, where adaptive leadership and inclusive decision-making are essential for sustaining educational continuity (Uygur et al., 2020).

Individual dispositions also influence leadership capacity. Emotional intelligence has been identified as a key factor enabling teachers to navigate interpersonal relationships, manage classroom dynamics, and assume leadership roles effectively (Yildizbas, 2017). Complementing this, professional learning models that incorporate coaching, feedback, peer supervision, and reflective tools such as video-based analysis have been shown to strengthen leadership practices by promoting continuous learning and self-evaluation (Wetzel et al., 2017; Nicolaidou et al., 2016; Shurr et al., 2022).

Taken together, these studies indicate that transformational leadership in teacher education is systemic rather than individual, emerging from the interaction between structural support, professional autonomy, and ethical purpose. Within Islamic Religious Education (IRE), this interaction is particularly pronounced, as leadership is inseparable from the cultivation of character, justice, and communal responsibility. Effective leadership in IRE settings extends beyond organizing professional development to fostering environments in which teachers are trusted to exercise *ijtihad* in curriculum decisions, collaboration, and pedagogical practice. In this context, collective efficacy and reflective inquiry function not only as mechanisms for instructional improvement but also as means of sustaining Islamic values amid contemporary challenges such as digitalisation and inclusive education. Consequently, teacher leadership in IRE can be understood as a holistic and dynamic capability, rooted in faith-based principles, strengthened through collaborative professionalism, and responsive to the evolving demands of modern schooling.

2. Pedagogical Competence Defined, Developed, And Assessed in Teacher Education

The findings indicate that pedagogical competence in teacher education is understood as a multidimensional and integrative construct, combining pedagogical knowledge (PK), pedagogical content knowledge (PCK), and technological pedagogical content knowledge (TPACK). Rather than being limited to subject expertise, competence is framed as the ability to align instructional strategies, disciplinary understanding, and technology use in response to diverse learning contexts.

Across the literature, pedagogical competence is shown to be dynamic and context-dependent, evolving alongside shifts in educational paradigms and technological integration. Periods of disruption, such as the COVID-19 pandemic, revealed significant variability in teachers' adaptive capacity, particularly in relation to digital pedagogy (König

et al., 2021). Similarly, competence in information and communication technologies (ICT) is consistently positioned as foundational for preparing pre-service teachers to meet contemporary instructional demands (Tondeur et al., 2018).

Development of pedagogical competence is not portrayed as a linear process but as one sustained through reflection, feedback, and theoretical engagement. Evidence suggests that practices such as error management and the deliberate use of misconceptions as learning opportunities strengthen pedagogical growth (Breternitz & Tulis, 2024), while digital collaboration skills are increasingly recognised as core components of teacher preparation (Ohle-Peters et al., 2024). Together, these findings underscore the importance of continuous professional development rather than one-off training interventions.

Teacher education programmes play a critical role in operationalising pedagogical competence through practice-based and reflective assessment strategies. Performance-based assessments, including classroom observations, peer evaluation, and self-reflection, are shown to bridge the theory–practice divide and support the development of practical teaching expertise (Setiawan et al., 2025). Complementary approaches such as journaling, collaborative inquiry, and structured reflection further enhance teachers’ preparedness for addressing diverse classroom challenges (Miftah et al., 2025).

Assessment of pedagogical competence is therefore characterised by multidimensional evaluation frameworks that integrate qualitative and quantitative data. Tools such as mentor feedback, self-assessment, and standardised measures are commonly combined with models like TPACK to evaluate how effectively teachers integrate pedagogy, content, and technology in practice (Mgeladze et al., 2024). This blended approach reflects the complexity of competence as both observable practice and underlying professional judgment.

Collaboration emerges as a key enabling condition in competence development. Professional learning communities facilitate peer-to-peer reflection and shared problem-solving, contributing to sustained instructional improvement and a culture of continuous learning (Bondurant, 2024). However, competence development is also shaped by contextual and cultural factors, with cross-national evidence demonstrating that variations in teacher preparation influence how competence is understood and enacted (Kyi et al., 2023). These findings highlight the need for culturally responsive teacher education models that align pedagogical expectations with local educational realities.

Overall, the synthesis suggests that pedagogical competence is best understood as a dynamic, context-sensitive capability produced through the interaction of theory, practice, reflection, collaboration, and technological integration. As educational systems continue to evolve, teacher education programmes must move beyond static competence models and prioritise adaptive, reflective, and contextually grounded approaches that prepare educators for diverse and digitally enriched learning environments.

3. Learning Management Innovations In Teacher Education

The synthesis of findings indicates that learning management innovation in teacher education is driven by the interaction between pedagogical change, digital integration, and increasing demands for learner-centred instruction. Rather than representing isolated technological upgrades, innovation is consistently framed as a systemic shift that reshapes teaching practices, curriculum design, and institutional culture.

One prominent pattern concerns the expanded role of teacher educators as agents of curriculum innovation. Evidence suggests that teacher educators are increasingly expected to design curricula that align national priorities with global competencies, positioning them as key mediators between policy and practice (Tep, 2024). However, structural and resource constraints frequently limit their capacity to implement innovative approaches, indicating that innovation depends not only on individual expertise but also on supportive institutional frameworks.

Innovation is also shown to extend beyond tools and content to include the reconfiguration of learning environments. From a sociocultural perspective, learning management innovation involves transforming how knowledge is mediated through social interaction, cultural context, and institutional norms (Beck, 2017). This view highlights innovation as a multidimensional process that integrates cognitive, social, and ethical dimensions of learning rather than focusing solely on technological adoption.

Adaptive and personalized learning approaches emerge as another central dimension of innovation. Studies demonstrate that learning analytics and data-informed feedback mechanisms enhance teacher training by aligning instructional strategies with individual learner needs, particularly during practicum experiences (Fernández-Morante et al., 2022). Similarly, the integration of Education for Sustainable Development (ESD) and curriculum internationalization reflects a broader orientation toward purpose-driven innovation that embeds global responsibility and values-based education within teacher preparation (Gregersen-Hermans, 2021).

Scalability represents a persistent challenge in translating innovative practices across educational systems. Findings indicate that effective innovation balances centralized policy direction with decentralized autonomy, allowing institutions and teachers to adapt practices to local contexts while maintaining systemic coherence (Hung et al., 2016). This balance underscores the importance of aligning innovation strategies with both structural governance and professional agency.

Pedagogical innovation is further shaped by teachers' capacity to integrate technology meaningfully into instruction. Research highlights the relevance of brain-based learning principles and the Technological Pedagogical Content Knowledge (TPACK) framework in supporting the design of instruction that is both innovative and pedagogically sound (López et al., 2023). These findings suggest that innovation is most effective when technological fluency is integrated with pedagogical reasoning rather than treated as an independent skill.

A recurring theme across the literature is the positioning of teachers as learning designers rather than passive implementers of innovation. Developing design-thinking

competencies enables teachers to create customized, technology-enhanced learning experience (Asensio-Pérez et al., 2017). However, institutional resistance and entrenched organizational cultures frequently constrain such innovation, indicating the need for leadership, professional development, and shared vision to overcome structural barriers (Madrid Miranda et al., 2024).

Professional learning structures play a critical enabling role in sustaining innovation. Participation in professional learning communities supports reflective practice and collaborative experimentation, although engagement varies depending on individual motivation and institutional support (Boylan, 2018). Closely linked to this is the cultivation of teacher agency, which enables educators to initiate and sustain innovation from within their professional contexts. Collaborative inquiry models and practitioner research teams have been shown to bridge theory and practice by embedding innovation within teachers' everyday work (Madrid Miranda et al., 2024). Similarly, including student teachers' voices in curriculum development enhances relevance and ensures that innovative practices respond to authentic classroom needs (Cameron & Galloway, 2019).

Overall, learning management innovation is not a singular intervention but a complex, context-sensitive process shaped by institutional support, professional agency, pedagogical competence, and value orientation. Sustainable innovation requires inclusive decision-making, continuous professional learning, and leadership structures that enable experimentation while maintaining coherence. As educational contexts continue to evolve, innovation in learning management must remain adaptive, ethically grounded, and responsive to both local and global educational demands.

4. Themes of Leadership, Pedagogy, and Innovation for IRE

The synthesis of findings demonstrates that transformational leadership, pedagogical competence, and learning management innovation contribute both uniquely and synergistically to advancing teaching and learning in teacher education. Within Islamic Religious Education (IRE).

The synthesis indicates that transformational leadership in teacher education operates through its integration into everyday pedagogical practice, with a strong emphasis on collaboration, professional autonomy, and shared vision. In Islamic education contexts, leadership that blends modern practices with Islamic values, such as justice, compassion, and integrity, is associated with more ethical and cohesive learning environments (Jayustinawati, 2025). Such leadership supports a shared Islamic mission while encouraging pedagogical experimentation within clear moral boundaries.

Pedagogical competence, in turn, is conceptualised as a dynamic and evolving capability rather than a fixed set of skills. For IRE teachers, pedagogical competence entails integrating religious knowledge, such as Qur'an, Hadith, and Arabic, with contemporary instructional strategies. Evidence indicates that teachers who effectively integrate TPACK are better positioned to design engaging and meaningful learning experiences, including in digital and blended environments (Ernawati, 2024).

Learning management innovation further mediates the relationship between leadership and pedagogical competence by reconfiguring instructional practices toward learner-centered approaches. In Islamic education settings, learning management innovation involves leveraging digital tools, such as learning management systems and blended learning models, while maintaining theological depth and ethical coherence. When appropriately adapted, these innovations enhance student engagement and allow teachers to monitor both academic and character development (Zakiyyah et al., 2024).

Across all three constructs, teacher agency emerges as the central integrative mechanism. The findings suggest that when IRE teachers are supported as autonomous and reflective professionals, they are better able to adapt instruction to students' needs and to Islamic principles. For example, evidence from Islamic boarding school contexts demonstrates how teachers act as agents of change by interpreting curricula in ways that align institutional requirements with religious vision and community values (Abdurrisal et al., 2022).

Taken together, this synthesis suggests that leadership, pedagogy, and innovation in IRE form a mutually reinforcing system grounded in ethical purpose and professional agency. Rather than viewing innovation or competence as technical challenges alone, the findings highlight the importance of leadership structures and institutional cultures that trust teachers to integrate Islamic values with contemporary educational frameworks.

Conclusion

This scoping review addressed four guiding questions: (1) how transformational leadership is discussed and practiced in teacher education contexts, (2) how pedagogical competence is defined, developed, and assessed, (3) what forms of learning management innovation are identified, and (4) how leadership, pedagogy, and innovation are integrated in preservice and in-service teacher development, particularly in relation to IRE.

The findings indicate that the integration of transformational leadership, pedagogical competence, and learning management innovation offers a cohesive framework for strengthening IRE in the 21st century. Each construct contributes in a distinctive way. Transformational leadership fosters collaboration and a shared Islamic vision within educational institutions. Pedagogical competence equips IRE teachers with the depth, flexibility, and instructional sensitivity needed to convey religious knowledge meaningfully. Learning management innovation shifts instruction toward more active and student-centered approaches while remaining aligned with Islamic values. At the center of this framework is IRE teacher agency, enabling teachers to take ownership of professional growth, lead instructional improvement, and respond confidently to pedagogical and technological change.

The theoretical implication is that transformational leadership, pedagogical competence, and learning management innovation mutually reinforce one another within IRE settings, creating a more coherent pathway for teacher growth. Practically, this study helps IRE institutions design programs that develop these three elements together by embedding leadership preparation into pedagogical training, pairing digital innovation

with Islamic value formation, and strengthening teacher agency through structured roles in curriculum design, digital adaptation, and community engagement. However, the model is limited by the scarcity of rigorously designed studies focused directly on IRE contexts and the lack of other literature databases. Future research should examine within various IRE environments, compare its functioning across Islamic boarding school, madrasah, and university-based programs, and explore how Islamic values can be systematically integrated into digital innovation and teacher leadership development.

Declarations

Authors contribution statement

The authors jointly contributed to the conception and design of the study, development of the research questions, data collection and screening, analysis and interpretation of findings, and drafting and revision of the manuscript. The authors approved the final version of the article for submission and publication.

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The author declares that there are no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Additional information

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